

IN THE CLAIMS

The status of each claim in the present application is listed below.

Claims 1-16: (Canceled).

17. (Previously Presented) A process for producing a purified resist polymer solution, comprising:

(1) dissolving a solid product comprising a resist polymer comprising a repeating unit decomposable by, and becoming alkali-soluble by, the action of an acid and a polar group-containing repeating unit, in a solvent (b) comprising one or more solvents selected from the group consisting of acetone, methyl ethyl ketone, tetrahydrofuran, ethylene glycol dimethyl ether, and ethyl acetate, and

(2) evaporating from the solution obtained in (1) the solvent (b) while adding, under reduced pressure with the temperature being controlled at 70°C or less, a solvent (a) comprising one or more solvents selected from the group consisting of propylene glycol monomethyl ether acetate, ethyl lactate, cyclohexanone, methyl amyl ketone, diethylene glycol dimethyl ether, diethylene glycol monoethyl ether, and γ -butyrolactone,

wherein the boiling point of solvent (b) is not higher than the boiling point of solvent (a) at atmospheric pressure, and

wherein the amount of impurities having a boiling point at atmospheric pressure of not more than the boiling point of the solvent (a) is 1 mass% or less of the resist polymer in the purified resist polymer solution.

18. (Previously Presented) The process of Claim 17, wherein the repeating unit decomposable by the action of an acid and becoming alkali-soluble contains an alicyclic skeleton having 5-20 carbon atoms.

19. (Previously Presented) The process of Claim 17, wherein the polar group-containing repeating unit comprises at least one polar group selected from the group consisting of a phenolic hydroxyl group, carboxyl group, hydroxyfluoroalkyl group, lactone structure, and hydroxyalkyl group.

20. (Previously Presented) The process of Claim 17, wherein the amount of the resist polymer in the resist polymer solution is in a range of 5-50 mass%.

21. (Previously Presented) The process of Claim 17, wherein the amount of the resist polymer in the resist polymer solution is in a range of 10-30 mass%.

22. (Previously Presented) The process of Claim 17, wherein the rate of dissolution of the resist polymer in the solvent (b) is greater than the rate of dissolution of the resist polymer in the solvent (a).

23. (Previously Presented) The process of Claim 17, wherein (2) is conducted with the temperature being controlled at 60°C or less.

24. (Previously Presented) The process of Claim 17, wherein (2) is conducted with the temperature being controlled at 55°C or less.

25. (Previously Presented) The process of Claim 17, wherein the amount of impurities having a boiling point at atmospheric pressure of not more than the boiling point of the solvent (b) is 0.5 mass% or less of the resist polymer in the purified resist polymer solution.

26. (New) The process of Claim 17, wherein solvent (b) is one or more solvents selected from the group consisting of acetone, methyl ethyl ketone, tetrahydrofuran, ethylene glycol dimethyl ether, and ethyl acetate.

27. (New) The process of Claim 17, wherein solvent (a) is propylene glycol monomethyl ether acetate, ethyl lactate, cyclohexanone, methyl amyl ketone, diethylene glycol dimethyl ether, diethylene glycol monoethyl ether, and γ -butyrolactone.

28. (New) The process of Claim 17, wherein
solvent (b) is one or more solvents selected from the group consisting of acetone, methyl ethyl ketone, tetrahydrofuran, ethylene glycol dimethyl ether, and ethyl acetate, and
solvent (a) is propylene glycol monomethyl ether acetate, ethyl lactate, cyclohexanone, methyl amyl ketone, diethylene glycol dimethyl ether, diethylene glycol monoethyl ether, and γ -butyrolactone.